

forming a gate insulating film on the semiconductor film in the second chamber,

wherein the first chamber and the second chamber are connected with each other through a preliminary chamber.

155. A method of manufacturing a semiconductor device according to claim 154, wherein the second chamber is a portion of a sputtering apparatus.

156. A method of manufacturing a semiconductor device according to claim 154, wherein the laser comprises an excimer laser or a YAG laser.

MI 157. A method of manufacturing a semiconductor device according to claim 154, wherein the laser light has a rectangular form at an irradiation surface.

158. A method of manufacturing a semiconductor device according to claim 154, wherein the gate insulating film comprises a silicon oxide film.

159. A method of manufacturing a semiconductor device comprising:  
irradiating a semiconductor film formed over a substrate with a laser light in an atmosphere containing oxygen in a first chamber;  
transporting the substrate from the first chamber to a second chamber;  
and  
forming a gate insulating film on the semiconductor film in the second chamber,  
wherein the step of forming the gate insulating film is conducted without exposing to air.

160. A method of manufacturing a semiconductor device according to claim 159, wherein the second chamber is a portion of a sputtering apparatus.

161. A method of manufacturing a semiconductor device according to claim 159, wherein the laser comprises an excimer laser or a YAG laser.

162. A method of manufacturing a semiconductor device according to claim 159, wherein the laser light has a rectangular form at an irradiation surface.

163. A method of manufacturing a semiconductor device according to claim 159, wherein the gate insulating film comprises a silicon oxide film.

164. A method of manufacturing a semiconductor device comprising:  
irradiating a semiconductor film formed over a substrate with a laser light in an atmosphere containing oxygen in a first chamber;  
transporting the substrate from the first chamber to a second chamber; and  
forming a gate insulating film on the semiconductor film in the second chamber;  
wherein the first chamber and the second chamber constitute a portion of a multi-chamber apparatus.

165. A method of manufacturing a semiconductor device according to claim 164, wherein the second chamber is a portion of a sputtering apparatus.

166. A method of manufacturing a semiconductor device according to claim 164, wherein the laser comprises an excimer laser or a YAG laser.

167. A method of manufacturing a semiconductor device according to claim 164, wherein the laser light has a rectangular form at an irradiation surface.

168. A method of manufacturing a semiconductor device according to claim 164, wherein the gate insulating film comprises a silicon oxide film.

169. A method of manufacturing a semiconductor device comprising:

irradiating a semiconductor film formed over a substrate with a laser light in an atmosphere containing oxygen in a first chamber;  
transporting the substrate from the first chamber to a second chamber;  
forming a gate insulating film on the semiconductor film in the second chamber;  
transporting the substrate from the second chamber to a third chamber; and  
performing a heat treatment in the third chamber,  
wherein the first through the third chambers are connected with each other through a preliminary chamber.

170. A method of manufacturing a semiconductor device according to claim 169, wherein the second chamber is a portion of a sputtering apparatus.

171. A method of manufacturing a semiconductor device according to claim 169, wherein the laser comprises an excimer laser or a YAG laser.

172. A method of manufacturing a semiconductor device according to claim 169, wherein the laser light has a rectangular form at an irradiation surface.

173. A method of manufacturing a semiconductor device according to claim 169, wherein the heat treatment is conducted in an atmosphere containing hydrogen.

174. A method of manufacturing a semiconductor device according to claim 169, wherein the gate insulating film comprises a silicon oxide film.

175. A method of manufacturing a semiconductor device comprising:  
irradiating a semiconductor film formed over a substrate with a laser light in an atmosphere containing oxygen in a first chamber;  
transporting the substrate from the first chamber to a second chamber;  
forming a gate insulating film on the semiconductor film in the second chamber;  
transporting the substrate from the second chamber to a third chamber; and  
performing a heat treatment in the third chamber,

wherein the step of forming the gate insulating film is conducted without exposing to air.

176. A method of manufacturing a semiconductor device according to claim 175, wherein the second chamber is a portion of a sputtering apparatus.

177. A method of manufacturing a semiconductor device according to claim 175, wherein the laser comprises an excimer laser or a YAG laser.

ml 178. A method of manufacturing a semiconductor device according to claim 175, wherein the laser light has a rectangular form at an irradiation surface.

179. A method of manufacturing a semiconductor device according to claim 175, wherein the heat treatment is conducted in an atmosphere containing hydrogen.

180. A method of manufacturing a semiconductor device according to claim 175, wherein the gate insulating film comprises a silicon oxide film.

181. A method of manufacturing a semiconductor device comprising:  
irradiating a semiconductor film formed over a substrate with a laser light in an atmosphere containing oxygen in a first chamber;  
transporting the substrate from the first chamber to a second chamber;  
forming a gate insulating film on the semiconductor film in the second chamber;  
transporting the substrate from the second chamber to a third chamber;  
and  
performing a heat treatment in the third chamber,  
wherein the first through the third chambers constitute a portion of a multi-chamber apparatus.

182. A method of manufacturing a semiconductor device according to claim 181, wherein the second chamber is a portion of a sputtering apparatus.

183. A method of manufacturing a semiconductor device according to claim 181, wherein the laser comprises an excimer laser or a YAG laser.

184. A method of manufacturing a semiconductor device according to claim 181, wherein the laser light has a rectangular form at an irradiation surface.

185. A method of manufacturing a semiconductor device according to claim 181, wherein the heat treatment is conducted in an atmosphere containing hydrogen.

186. A method of manufacturing a semiconductor device according to claim 181, wherein the gate insulating film comprises a silicon oxide film.--

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